

# SEQUENCE LISTING

<110> Salceda, Susana  
Cafferkey, Robert

<120> Method of Diagnosing, Monitoring, Staging, Imaging and  
Treating Breast Cancer

<130> DEX-0209

<140>

<141>

<150> 60/213,084

<151> 2000-06-21

<160> 12

<170> PatentIn Ver. 2.1

<210> 1

<211> 4780

<212> DNA

<213> Homo sapiens

<400> 1

```

agcaagggag gcatgccaa agcaagagtg tgggtgtgaa cgtagagaat cctccttttt 60
gccccaaaagg ggtgaagtgt ttgatgcagg tcatggagga gaaagcatgg tgtgggtaag 120
acacggaagg aatgaaggag aggtgagatg aggccacaga aacaggggtgt agaggtgttg 180
gcaccttggg aacattgagg accgtgtgtc aataaagggc atggcgagac gatggaaggc 240
cagaggacac aacagagaga ggaaaccact gttccttaga ggcagaactg agaatacagg 300
acggttaggg gtgaactgag acagcagatg gactcagtac agcaggttga ggacatggaa 360
gctggcagtg gtgtcatcag tggggggcag ggcaggaagg ggtcagagtt caggaaagat 420
tcctgagtc tctggattgac ttggaggtgg cagggcagtc aggactggat gttgaagatg 480
aaaaggagtt tctggaagat gacagtggga ggcaacactg tgtgtagact gtgcaaattt 540
acactggcat accacatgga atgagagagt ctggcagcca ttctaaggca gttattggga 600
tgtaaatttg atgacggaag tttatggtaa aagaaggagc aggaggcagg taggagggga 660
gataacctta tgaatttgtg cagggttag catcagtaaa agggctgaca tggaataggg 720
gaaggtggaa tgcagagttc ccaaagtggg ggcactggca aatctcaggg gcaagtcagt 780
ggtatgttcg gtatcatggc tgagtgtagg agcattttag ggaatagaag ttaaataccta 840
gacgacaagc gagtggggta acaacacttt acctgtcatg gtaactactt cattgaatag 900
gaaaacagaa aaagaagaaa ctttatagag ggtgatggta aagcaacccc aactgatatg 960
gaaggcagtg ttggcaatca ctgaaggtca ggattttgaa agcaacaat taacaatgta 1020
aaatttgcaa gtgtgggggt tggacatagg ttactatgtg tttaatgtgg tctccaacaa 1080
aattagcaga gcaaaaatga gaaggaagta ttactctgtt taacaagatt gaaattaagg 1140
ggacagtata cagttttaa cactttggga tttaggaatg tcagagttgg tagggtgggt 1200
attgttgccc cttgatccac agtatggaat aatggcaaag aggaaaacta tatagaaaga 1260
acttgtcatt aggggaatttg gtggcttcct taaagctcct tgagggaac acttgatgaa 1320

```

tgccttagagt	caggagaata	aacgggtccca	tatagagata	ggtttatgaa	gcggagtctg	1380
aaggatgagc	ttcatcagca	atcctcagaa	tgctagttct	actagctaag	gatgcaggta	1440
agtatgttgg	acaccaagag	aacaggaagg	aagtgttttg	aacactggag	gtgggtcatg	1500
aggaagctta	tacataattca	cattgtgaat	caatttcaag	gacagatgaa	caaagactgg	1560
gcgttaccaa	tagagcaggg	ttttgttttg	tttttccct	aaggcaaaag	gcagaaatga	1620
gtgggtacac	catgattaag	ttgcattctg	tagagatagg	atcatttaag	tcaagtcagc	1680
aacaaaaatt	agagacattg	aagatgatgg	ggtagaaaag	gggtatcaaa	taggttagaa	1740
agatggcttg	aaaggaaatg	agggaaatth	cagtgaagtt	gaggaatggc	agactgggta	1800
tgtgacaaat	gagtgggtaa	ataaggaaat	ctcagactga	gaatcctggc	agatctttca	1860
atgggttaga	ctgcagggaat	attgatttta	aagccagact	gaagcaaatt	ctagtataaa	1920
aggaagggga	aagggtggct	gaatcaaatg	ttctaccaat	actgcttttt	ttagtatttg	1980
agttaaaatt	cagattaaat	gcttggctta	gaagaatgca	aagcttcact	gagcctaata	2040
atatggatcc	cagtgggtga	gtggagggtga	gttaaagtaa	aaaactctga	ggcaaactct	2100
acttaactga	agttgtgttt	ttagtacaga	atgccaaagt	aatatgggta	atactgaaca	2160
aaaaataatg	gaagggaac	tacagtagct	taagatggca	ctttaaggaa	gtgtaggcag	2220
aaagtcaaga	aattaaaata	attatgaatc	attatatggc	aggcaatatt	tccagtgaag	2280
atcagagaaa	ataaactcac	atacatgtac	tgttacagct	gatcttagta	tgaatatttt	2340
ctattaaaga	ctgttttaaa	ataagttatt	aatatttgtt	gaaatgggtc	cagataacaa	2400
gaaatatgat	gcaataaaaac	ctgataaata	aaagcaatat	aaagattaga	atggttttga	2460
ataggtagt	gaataaaaag	ttaagttggg	agttgcatta	aaaagggtcaa	acatggggga	2520
taattggtag	aatgttgtgt	atataatata	tattgttacg	ggtgcaataa	atattcaggg	2580
gaaacagagc	tgctgaaaga	gaatgaatgc	ttagaaggaa	tggtgcctta	aaggcttttc	2640
taaaactttt	taggtaaagg	acaaattctg	ggaggacgaa	agataataag	taggactagt	2700
tacatagaga	cttaggatgt	ccatagtctt	tcaagaaatt	gccaacctt	tgcgagaagg	2760
tgttatggta	atatattgat	gttgggttaa	agcaaatttt	ttcagatagg	gtagattttt	2820
atacatttat	aaagtaaagg	ggagtaggaa	agattaaaga	tagatcaaag	aaaggaataa	2880
ttgatggaac	aactttctgg	aagagattag	agggatgtgt	tcttttgaac	tctggaagac	2940
ttgattttag	agaggataaa	ggaagaaagt	ggataattct	agaattaaac	accaaagggt	3000
tctatgtgtc	tggcaccatg	tgaagcaact	tacctattat	ttcatttcat	ttcatttcat	3060
ttcatttcat	ttcatttcat	cctataacag	tcctaagaga	tcaaataatt	tgtccacgat	3120
tacacagtca	gtatgtagca	gggccagcat	tcaaactctc	atctgtctat	caaaccata	3180
ttcccttcta	ttatgtctata	ctgttttcaa	gttgaaggaa	atcaaaccac	gaatttctgt	3240
tttttctactg	cgattataag	gaaaaatatt	atttttctga	aatgagacat	attgatgttt	3300
aagaccttga	ggtgacaggt	aaaattttgga	atatctgtga	tgggaaaatg	caaaaaggaa	3360
ggaatgggta	aaagatacct	attaccatct	atgccctggg	atttcacttc	ttccattgca	3420
cagcatagac	tttagattgg	ccatggatta	aaaatttgag	aattctgaca	aaaaactaaa	3480
tagaaaggag	tttgtttttt	aagtaggtat	atgatgggtc	aaatataaac	ttactactaa	3540
caaaacttta	aacaattccc	taaatgccaa	acttttataa	acaaaaatca	aacaaacat	3600
caagcaaaag	agtcctatgc	cagcagacca	aatgttgaaa	tctctgggct	aatttgtaag	3660
atctatgttt	taaaactcct	tagtgaagag	gggcaagaaa	acctctcctc	tttttctctc	3720
cttgggtggaa	atgttttggt	gttgtgtgtg	gttttttctc	atactatatg	taatttctat	3780
attgttgttt	tgtgtatttt	ggtattataa	aattataact	cttagattcc	gttaagaata	3840
ctttctgggg	tgtgagccac	ctgagttatt	agtttagcaa	atgaacctgg	ggaagtggga	3900
agagctagta	ttctcaattg	gcaagggtat	gattcttcaa	tgggttcagc	aattcacttc	3960
cctctgaaat	taagtggcaa	agtaatagca	tcccttaaaa	aacaggacat	tgggtgagag	4020
tagaatagca	ggagggaatt	tgaaacatgg	agggatggct	actggaaaag	aactgatgaa	4080
gtgcagagtc	tctccagaca	atggtagaaa	ccacaggact	acattaagat	tggggccaaa	4140
tactagttta	gaaaaaggta	aataaaaacta	gctttactta	agagtacagc	cagcttaatt	4200

actggctagt ggacatatatt cagacaaatc taactggaga gaaaaacaga ccaggagaga 4260  
aagcgaagtt acaaggaaat ggaactagag aaacctcaca aagggataaa ggaggtaatt 4320  
aaaggttaaa gccagatagc ctcgagctca aaggagaaat attggaggcc agataggaaa 4380  
gtgccttctt actcaggggg ttatggatcc aggggtggcta aagaatagaa gtagagttcc 4440  
accaggggcc agagggaaca atctgggatt cagacacagc agtggtgcca acgtgaatct 4500  
acctcgtgct agagtctgag tagcctagtc tatcacccaa cacagataag actggacagg 4560  
ggctcccagg aaccaacatc taagaaggga gtttggagag gggctaaaag aaagcagggt 4620  
aagcccaaaa tgtaactgaa tgatgaccag ggataactat ttactagtgc ttttatgatt 4680  
tattgttaact ctgtaacttt ccagtatatt gttaattttt taacttctgt ttctcctgta 4740  
cttacgagca gtaaaagttg ttcaaaacat aaaaaaaaaa 4780

<210> 2  
<211> 509  
<212> DNA  
<213> Homo sapiens

<400> 2  
ttgacctgtg acacctgtag cctaataaac atattaagaa aagtacttag tattgtatag 60  
atatttggat tccaagagaa aatgcaacat ttataataag aagtccatac tctttttctt 120  
acagcagagc gtcacactga gttccatttt aaaaaaggac tcatttttca ggccaacaac 180  
tggtgcattt gaatcagata taaataatag attttccaca aacactcagc tgattgtagc 240  
agtgttattt aagctgggtat gtttattttt tttttcttgg aaggatagct ttatatttgg 300  
gctttcatta taaattgtgt tctgcttgtg tttaaatggc ttacttataa gctagagcac 360  
tatatgggag tggtcttctc tgtatgggtat ccttttattt gcttggtctg gttcataaca 420  
gtgtgtgcca tattctttct tttcactgat tctaagccat gagacttatt agcatctggg 480  
ggcaagctgc agggaccatt aacagtggtg 509

<210> 3  
<211> 427  
<212> DNA  
<213> Homo sapiens

<220>  
<221> unsure  
<222> (109)..(179)

<220>  
<221> unsure  
<222> (330)..(355)

<400> 3  
aaaaaaaaaa aaaaaaatc aacattttat ttgagaaat ttcaaacctt caaaaagttg 60  
caggaatagt gtctatctga aatacatatt cagtcttttc tttagaagnn nnnnnnnnnn 120  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnt 180  
aaaatcactg tgagcactga cttagcacat actggaccgt tgctcctagg agaaatacag 240  
ggttgcgttc ctgtgagctt tggctcgtgat attttcatca gctgatcaat atgtaatctt 300

gttttatgtg tatttctgtt taaagattcn nnnnnnnnnn nnnnnnnnnn nnnnnnggttg 360  
 agttgttacc gttgaactca cagccccacag gactagaaca catgcctaaa taaagtttat 420  
 ctaacat 427

<210> 4  
 <211> 1506  
 <212> DNA  
 <213> Homo sapiens

<400> 4  
 taaattcgcg gccgcgtcga cgcagcctta cagagactgg aaaagaagcc caaaccaagg 60  
 cccccagaga ggtccccccag gccccttttg ttccctgagc ctcagctgga ggtggggggg 120  
 gcctgcagtgc cgctggctca gtctccttct gaaaagctgg atccagcttg tttgaagccc 180  
 ttgagctgat cttagatccg gcgcaggaga ccaacgcctg ccatgctgtt ccggctctca 240  
 gagcactcct caccagagga ggaagcctcc cccaccaga gagcctcagg agagggggcac 300  
 catctcaagt cgaagagacc caacccctgt gcctacacac caccttcgct gaaagctgtg 360  
 cagcgcattg ctgagtctca cctgcagtct atcagcaatt tgaatgagaa ccaggcctca 420  
 gaggagggag gatgagctgg cgggagcttc gggagctggg ttatccaaga gaggaagatg 480  
 aggaggaaga ggaggatgat gaagaagagg aagaagaaga ggacaggcag gctgaagtcc 540  
 tgaaggtcat caggcagtct gctgggcaaa agacaacctg tggcccaggg gtctggaagg 600  
 gcccgctggga gcgcccaccc cctctggatg agtccgagag agatggaggc tctgaggacc 660  
 aagtgggaaga cccagcacta agtgagcctg gggaggaacc tcagcgcctt tccccctctg 720  
 agcctggcac ataggcacc cgcctgcac tcccaggagg aagtggaggg gacatcgctg 780  
 ttccccagaa acccactcta tcctcaccct gttttgtgct cttccccctg cctgctaggg 840  
 ctgcggcttc tgacttctag aagactaagg ctgggtctgtg tttgcttggt tgcccacctt 900  
 tggctgatac ccagagaacc tgggcacttg ctgcctgatg cccacccctg ccagtcattc 960  
 ctccattcac ccagcgggag gtgggatgtg agacagcca cattggaaaa tccagaaaac 1020  
 cgggaacagg gatttgccct tcacaattct actcccaga tcctctcccc tggacacagg 1080  
 agaccacag ggcaggacc taagatctgg ggaaaggagg tcctgagAAC cttgaggtac 1140  
 ccttagatcc ttttctaccc actttcctat ggaggattcc aagtcaccac ttctctcacc 1200  
 ggcttctacc aggggtccagg actaaggcgt ttttctccat agcctcaaca ttttgggaat 1260  
 ctcccttaa tcacccttg cctcctggg tgcttgaag atggactggc agagacctct 1320  
 ttgttgcggt ttgtgctttg atgccaagg atgcgccta gtttatgtcc ccgggtggggc 1380  
 acacagcggg gggcgccagg ttttctctgt ccccagctg ctgctgcccc tttccccctt 1440  
 ttccctgact ccaggcctga acccctcccg tgctgtaata aatctttgta aataacaaaa 1500  
 aaaaaa 1506

<210> 5  
 <211> 2086  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> unsure  
 <222> (1524)

<400> 5

```

ctttgtataa ggctcagcta aaagggaaat tgagtgggtc aggtaccacg gatactatac 60
actctattgc atgattctcc tgcctacatc agaagacgtt tataagccta ttttaaagga 120
taccagttgg aatctctctt ttattaatca ccaagagaac catgaacaag ctgtttatca 180
tttgactcat catttaatct tgatttccag cttctcacac ttgaaagaag acataatata 240
tttctcacag gattctggga ctattaactg aacttatgtg tgtaaaagga attcatacaa 300
tgaaagcact agaaataatt attatactta taaccattgt atttttacat gtttaaaata 360
tagccataat tagcctactc aaatccaagt gtaaaaagtaa aatgatttgc tttcgttttg 420
ttttccttgc ttaggggatc atggacattg aagcatatct tgaaagaatt ggctataaga 480
agtctaggaa caaattggac ttggaaacat taactgacat tcttcaacac cagatccgag 540
ctgttccctt tgagaacctt aacatccatt gtggggatgc catggactta ggcttagagg 600
ccatttttga tcaagttgtg agaagaaatc ggggtggatg gtgtctccag gtcaatcatc 660
ttctgtactg ggctctgacc actattgggt ttgagaccac gatgttggga gggatgtgtt 720
acagcactcc agccaaaaaa tacagcactg gcatgattca ccttctcctg caggtgacca 780
ttgatggcag gaactacatt gtcgatgctg ggtttggacg ctcataccag atgtggcagc 840
ctctggagtt aatttctggg aaggatcagc ctcagggtgc ttgtgtcttc cgtttgacgg 900
aagagaatgg attctggtat ctagaccaa tcagaaggga acagtacatt ccaaataag 960
aatttcttca ttctgatctc ctagaagaca gcaaataccg aaaaatctac tcctttactc 1020
ttaagcctcg aacaattgaa gattttgagt ctatgaatac atacctgcag acatctccat 1080
catctgtgtt tactagtaaa tcattttgtt ccttgcagac ccagatggg gttcactgtt 1140
tggtgggctt caccctcacc cataggagat tcaattataa ggacaatata gatctaatag 1200
agttcaagac tctgagttag gaagaaatag aaaaagtgtc gaaaaatata tttaatattt 1260
ccttgcagag aaagcttgtg cccaaacatg gtgatagatt ttttactatt tagaataagg 1320
agtaaaacaa tcttgtctat ttgtcatcca gctcaccagt tatcaactga cgacctatca 1380
tgtatcttct gtacccttac cttattttga agaaaatcct agacatcaaa tcatttcacc 1440
tataaaaaatg tcatcatata taattaaaca gcttttttaa gaaacataac cacaaacctt 1500
ttcaaataat aataataata attnttaaaa atgtctttta aagatggcct gtggttatct 1560
tggaatttgg tgatttatgc tagaaagctt ttaatgttgg tttattgttg aattcctaga 1620
aaagttttat gggtagatga gtaaataaaa tattgtaaaa aaacttattg tctataaagt 1680
atattaaaac attgttggct aatataattt gaaaaaaagt ggtttttttg aagacttagg 1740
atattatggt gctacataat ttttcctcga tgctctcttc ctctcatctt tcttgtctct 1800
taaattactt tacttcttg cacactttgc catacaagaa tgaacatgag cttttcttgt 1860
gtagatctga gttgaaatcc tgtggacact gggcgaatta ctttttagat ctgtagctct 1920
gactcctcag gcataaaatg ggaataatgc ttttacagtt tagtggcgga actaaactcc 1980
caaaattatt tgttatatgg atcaagtaat aacgtcagta atgttttttg taaaaagtca 2040
ttatttaata aaagttattg ctccatcttg cttgcccccc caaaaa 2086

```

<210> 6

<211> 169

<212> PRT

<213> Homo sapiens

<400> 6

```

Met Leu Phe Arg Leu Ser Glu His Ser Ser Pro Glu Glu Glu Ala Ser
  1             5             10             15

```

```

Pro His Gln Arg Ala Ser Gly Glu Gly His His Leu Lys Ser Lys Arg

```

09336941.0E3101

20	25	30
Pro Asn Pro Cys Ala Tyr Thr	Pro Pro Ser Leu Lys Ala Val Gln Arg	
35	40	45
Ile Ala Glu Ser His Leu Gln Ser Ile Ser Asn Leu Asn Glu Asn Gln		
50	55	60
Ala Ser Glu Glu Glu Asp Glu Leu Ala Glu Leu Arg Glu Leu Gly Tyr		
65	70	75 80
Pro Arg Glu Glu Asp Glu Glu Glu Glu Glu Asp Asp Glu Glu Glu Glu		
85	90	95
Glu Glu Glu Asp Arg Gln Ala Glu Val Leu Lys Val Ile Arg Gln Ser		
100	105	110
Ala Gly Gln Lys Thr Thr Cys Gly Pro Gly Val Trp Lys Gly Pro Trp		
115	120	125
Glu Arg Pro Pro Pro Leu Asp Glu Ser Glu Arg Asp Gly Gly Ser Glu		
130	135	140
Asp Gln Val Glu Asp Pro Ala Leu Ser Glu Pro Gly Glu Glu Pro Gln		
145	150	155 160
Arg Pro Ser Pro Ser Glu Pro Gly Thr		
165		

<210> 7  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic

<400> 7  
tggaacaact ttctggaaga gatta

25

<210> 8  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 8

atgggtttga tagacagatg agga

24

<210> 9

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 9

cctgtgacac ctgtagccta ataaa

25

<210> 10

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 10

tgacgctctg ctgtaagaaa aa

22

<210> 11

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 11

gccttacaga gactggaaaa gaa

23

<210> 12

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

<400> 12

tcagcgaagg tgggtgtgtag

20

TCAGCGAAGG TGGGTGTGTAG